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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,483	05/03/2001	Raymond Patrick Johnston	1004-012US01	7764
32692	7590	10/05/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			BECK, ALEXANDER S	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 10/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/848,483		JOHNSTON ET AL.	
	Examiner		Art Unit	
	Alexander S. Beck		2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,10,12-14,18,20,26,27,29,31 and 38-45 is/are rejected.
- 7) ☒ Claim(s) 6-9,11,15-17,19,21-25,28,30 and 32-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made of the amendment filed by the Applicant on 01/14/2005, in which: Claim 3 was amended; and the rejections of Claims 1-5,10,12-14,18,20,26,27,29,31 and 38-45 were traversed. **Claims 1-45** are currently pending in US Application Serial No. 09/848,483, and an Office Action on the merits follows.

Claim Rejections - 35 USC § 112

2. The rejection of Claims 3 and 4, under the second paragraph of 35 U.S.C. 112, set forth in paragraphs 1 and 2 of the previous Office Action (i.e., the non-final Office Action mailed on 10/18/2004), is withdrawn in light of the Applicant's amendment to Claim 3.

The amendment to Claim 3 is acknowledged and approved by the Examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1,2,5,10 and 12-14** are rejected under 35 U.S.C. 102(b) as being anticipated by Finlayson (4,385,219).

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As to independent **Claim 1**, Finlayson teaches/suggests an apparatus for use in a switch array having spring elements (A preamble is generally not accorded any patentable weight where it merely recites the purpose or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the structural limitations body of claim are able to stand alone), the apparatus comprising: a bottom layer (figure 1, items 1,5 and 8) defining holes (in figure 1, a first hole is comprised of the space defined by item 8 of the bottom layer and a second hole is comprised of the space defined between items 1 and 5 of the bottom layer) for aligning with spring elements (figure 1, item 6); and a top layer (figure 1, items 7 and 15) engaged with the bottom layer and biased away from the bottom layer upon protrusion of the spring elements through the holes in the bottom layer (figure 1 illustrates that item 6 protrudes through the first and second holes, as defined above, during the compression or expansion as a result of a force exerted on item 6).

As to **Claim 2**, Finlayson teaches/suggests the apparatus of claim 1 , wherein the top layer includes a plurality of top layer sections, and each of the top layer sections directs user actuated force against one of the spring elements (figure 1, items 7 and 15).

As to **Claim 5**, Finlayson teaches the apparatus of claim 1, wherein the bottom layer and top layer define sets of hook-like elements that engage one another to define a distance of travel between the bottom layer and the top layer (figure 1, items 13,20,21 and 22 define and limit distance of travel and at these interfaces its looks like a curved or bent device for catching which reads on hook-like elements).

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As to **Claim 10**, Finlayson teaches the apparatus of claim 1, wherein the holes are sized in the range of 0.1 to 2 square centimeters (figure 1 illustrates a finger operated switch where the holes look to be in this range).

As to **Claims 12,13 and 14**, Finlayson teaches the apparatus of claim 5, wherein the distance of travel is less than 3 millimeters, 2 millimeters, or in a range of 0.01 to 1 centimeters (figure 1 shows a switch that has the capability of being pressed down this much or more).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 3,4,18,20,26,27,29,31 and 38-45** are rejected under 35 U.S.C. 103(a) as being unpatentable over Finlayson (4,385,219).

As to **Claim 3**, Finlayson does not directly illustrate the apparatus of claim 2, wherein the switch array is a keyboard, however it is obvious that more than one of Finlayson switches is capable of being produced and arranged together on a board this reads on the well known concept of "mere duplication of a well known part to achieve a multiplicative effect" for example "keyboard".

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As to **Claim 4**, Finlayson the apparatus of claim 3, wherein each of the top layer sections is aligned with one of a plurality of keys in the keyboard (figure 1, item 15).

As to independent **Claim 18**, Finlayson was found to teach and suggest most of the limitations claimed in 18 in claims 3 and 1 above in addition Finlayson teaches an array of sensor elements that generate signals in response to a force (figure 1 illustrates a spring must be compressed in order to close the switch to send a signal).

As to **Claim 20**, the limitations were addressed by Finlayson above in claim 5.

As to **Claim 26**, Finlayson teaches the keyboard of claim 18, further comprising keycaps attached to the top Layer (figure 1, item 15).

As to **Claim 27**, Finlayson teaches the keyboard of claim 18, wherein the array of spring elements are attached to the top layer (figure 1).

As to independent **Claim 29**, Finlayson most of the limitations were addressed by Finlayson above in Finlayson suggest a system comprising: a processor coupled to an input device (it is obvious that a key switch which one of many keys in a keyboard or key pad is intended to be used with some type of processor in a device such as a desktop computer, a laptop computer, a handheld computer, a cellular telephone, an instrument panel, an appliance which all commonly use keys as the input interface for a system).

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As to **Claim 31**, Finlayson teaches the system of claim 29, wherein the bottom layer and top layer define sets of hook-like elements that engage one another to limit a distance of travel between the bottom layer and the top layer (figure 1, items 13 and 20-22 define and limit distance of travel and at these interfaces its looks like a curved or bent device for catching which reads on hook-like elements).

As to **Claim 38**, Finlayson teaches the system of claim 29, further comprising keycaps attached to the top layer (figure 1 , item 15).

As to **Claims 39, 40, 41, 42, 43, and 44**, Finlayson suggest the system of claim 29, wherein the system is a desktop computer, a laptop computer, a handheld computer, a cellular telephone, an instrument panel, an appliance and the input device is a keyboard or key pad on the system (these are all well known devices directed merely towards an obvious intended use of the Finlayson key switch).

As to **Claim 45**, Finlayson teaches the system of claim 29, wherein the array of spring elements are attached to the top layer (figure 1 , items 7 and 6).

Allowable Subject Matter

7. **Claims 6-9,11,15-17,19,21-25,28,30 and 32-37** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: *see previous Office Action.*

Response to Arguments

8. Applicant's arguments filed 01/14/2005 have been fully considered but they are not persuasive.

Applicant argues that spring element 6 appears to be resting on top of elements 1 and 5, is not being aligned by the holes, and is not protruding "through" a bottom layer. *See pg 10, ln 8-14,26-28; pg 11, ln 1-9.*

Examiner respectfully disagrees. Finlayson illustrates in FIG. 1 spring 16 being conformed by a bottom layer, wherein the bottom layer comprises items 1,5 and 8. A hole is defined as "a hollowed place in something solid". *See The American Heritage® College Dictionary, 2002*. A first hole, as defined by American Heritage®, is constituted by the area within the upper part 8 of the bottom layer. The second hole, as defined by American Heritage®, is constituted by the area between lower parts 1 and 5 of the bottom layer, which surrounds the spring 16. Therefore, the first and second holes align the plurality of spring elements (i.e., the plurality of wound coils, wherein a coil is a series of concentric rings or concentric spirals). Furthermore as the plurality of spring elements, which constitute spring 16, are compressed or expanded, each coil winding is displaced (i.e., protrudes "through") within the bottom layer due to a force exerted.

Applicant argues that items 13,20,21 and 22 do not constitute hook-like elements that engage one another, and that items 13,20,21 and 22 appear to be components of element 7. *See pg 11, ln 17-26.*

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Examiner respectfully disagrees. A hook is defined as “a curved or sharply bent device used to catch, pull, suspend, or fasten something”. See *The American Heritage® College Dictionary*, 2002. It is clear from FIG. 1 that items 13,20,21 and 22 are sharply bent devices, thus reading on the definition of a hook-like element. Items 13 and 21 are components of element 7, whereas item 20 is a component of element 5 and item 22 is a component of element 8. See *Finlayson: col 3, ln 46-55*. Furthermore, items 13 and 20 cause elements 7 and 5 to engage (i.e., interlock) with one another to terminate a downward force, and items 21 and 22 cause elements 7 and 8 to engage (i.e., interlock) with one another to terminate an upward force. See *Finlayson: col 3, ln 46-55*.

9. Applicant's arguments with respect to Claims 1 and 5, not addressed above by the Examiner, have been considered but are moot in view of the new ground(s) of rejection. Specifically, item 8 constitutes the bottom layer, along with items 1 and 5, and reads on the limitations as presently claimed.

Conclusion

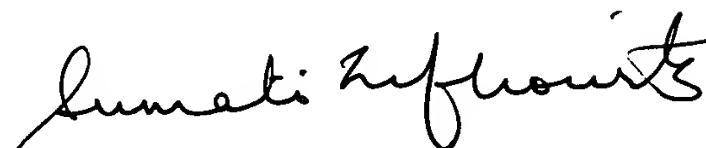
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander S. Beck whose telephone number is (571) 272-7765. The examiner can normally be reached on M-F, 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

asb



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